

REMARKS

Favorable reconsideration of this application, in light of the following discussion, is respectfully requested.

Claims 13-23 are pending. Claims 13 and 21 are independent.

In the Official Action, claims 13-23 were rejected under 35 U.S.C. § 103(a) in view of Proctor (U.S. Patent Pub. No. 2003/0182108) and Kavner (U.S. Patent No. 6,289,390).

Applicant acknowledges with appreciation the telephone discussion between the Examiner and Applicant's representative on June 4, 2009. During the discussion, Fig. 1 of Proctor was compared to Applicant's claim 13. While no agreement was reached, the Examiner appeared to acknowledge that Proctor does not disclose or suggest Applicant's claimed voice frame checker and frame generator.

Briefly recapitulating, claim 13 is directed to

A mobile terminal configured to interoperate with a mobile communication system simultaneously providing multiple services, the multiple services including a voice service, a text service, and an image service, through a wireless traffic channel, the mobile terminal comprising:

a vocoder configured to vocode voice data with a variable vocoding rate to produce a plurality of voice frames, including vocoding detected speech into a speech frame with a predetermined maximum vocoding rate and vocoding periods without detected speech into a non-speech frame at a vocoding rate lower than the predetermined maximum vocoding rate;

a CMS (concurrent multiple service) processor configured to segment a to-be-transmitted CMS message of one of the multiple services into data segments;

a voice frame checker configured to determine whether or not one of the plurality of voice frames is vocoded with a vocoding rate less than the predetermined maximum vocoding rate and to output a corresponding check result; and

a frame generator configured to:

if the check result indicates that the vocoding rate is less than the predetermined maximum vocoding rate, multiplex the one data segment and the one voice frame to generate a common frame, and to transfer the common frame to a wireless modem for transmission; and

if the check result indicates that the vocoding rate is not less than the predetermined maximum vocoding rate, transfer the one voice frame without the one data segment to the wireless modem for transmission.

Fig. 1 of Proctor describes a BSC 10 that includes a speech encoder 20, a processor 22 and a multiplexer (MUX) 24. The speech encoder 20 receives speech samples at a data rate of 64 kbits/sec and uses speech compression algorithms to reduce the data rate. Speech encoder 20 includes a rate selector 26 that selects the appropriate data rate for each 20 mS portion of the received speech to be encoded at. The data rate of the resulting compressed speech frame is typically dependant on the level of speech activity within the sampled speech.

Processor 22 of Proctor is responsible for generating and terminating signaling messages with the mobile unit 70. These signaling messages are multiplexed with the encoded speech frames from speech encoder 20 and with some additional control information by the MUX 24 to form full, half or eighth rate traffic frames. The additional control information includes a parameter specifying the traffic frame rate. The traffic frames are then sent via communication link 28 to the Base Transmitter Site (BTS) 30.

However, contrary to the Official Action, Proctor does not disclose or suggest Applicant's claimed voice frame checker. That is, assuming *arguendo* that Proctor's speech encoder 20 and rate selector 26 are equivalent to Applicant's claimed vocoder, and Proctor's processor 22 is equivalent to Applicant's claimed processor, the only remaining component in

the BSC of Proctor, multiplexer 24, does not determine whether or not one of the plurality of voice frames is vocoded with a vocoding rate less than the predetermined maximum vocoding rate and to output a corresponding check result.

Similarly, multiplexer 24 of Proctor is not equivalent to Applicant's claimed frame generator. That is, Applicant's claimed generator has two modes of operation: multiplex-yes and multiplex-no. The decision to multiplex depends on whether or not one of the plurality of voice frames is vocoded with a vocoding rate less than the predetermined maximum vocoding rate (i.e., the claimed check result). In contrast, multiplexer 24 of Proctor does not have a multiplex-no mode of operation. As seen in paragraph [0021] of Proctor, the signals from processor 22 are always multiplexed with the output of encoder 20 to form the full, half or eighth rate frames. The multiplexer 24 of Proctor appears to control the encoder to leave adequate room in the vocoded speech for the additional signals so as to fill-out the to-be-transmitted full, half or eighth rate frames. However, multiplexer 24 of Proctor does not selectively multiplex signals as recited in Applicant's claim 13.

Independent claim 21 is directed to

A method of multiplexing/de-multiplexing multiple services to simultaneously provide the multiple services through a wireless traffic channel, the method comprising steps of:

vocoding voice data with a variable vocoding rate to produce a plurality of voice frames, including vocoding detected speech into a speech frame with a predetermined maximum vocoding rate and vocoding periods without detected speech into a non-speech frame at a vocoding rate lower than the predetermined maximum vocoding rate;

segmenting CMS (concurrent multiple service) data received from a CMS data terminal into data segments;

determining whether or not one of the plurality of voice frames is vocoded with a vocoding rate less than the predetermined maximum vocoding rate and to output a corresponding check result;

if the check result indicates that the vocoding rate is less than the predetermined maximum vocoding rate, multiplexing the one data segment and the one voice frame to generate a common frame, and transferring the common frame to a wireless modem for transmission; and

if the check result indicates that the vocoding rate is not less than the predetermined maximum vocoding rate, transferring the one voice frame to the wireless modem for transmission without the one data segment.

For at least the reasons stated above relative to claim 13, Applicant submits that Proctor does not disclose or suggest Applicant's claimed steps of determining and multiplexing or transferring.

Applicant has considered Kavner and submits Kavner does not cure the deficiencies of Proctor. As none of the cited art, individually or in combination, disclose or suggest at least the above-noted features of independent claims 13 and 21, Applicant submits the inventions defined by claims 13 and 21, and all claims depending therefrom, are not rendered obvious by the asserted references for at least the reasons stated above.¹

CONCLUSION

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Michael E. Monaco, Reg. No. 52,041, at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

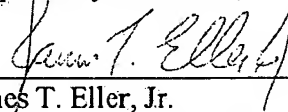
¹ MPEP § 2142 "...the prior art reference (or references when combined) must teach or suggest all the claim limitations.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§ 1.16 or 1.147; particularly, extension of time fees.

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Respectfully submitted,

By



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